**Dwarf Galaxy Evolution: Reionization Alone Is Not Able to Stop Star Formation, Research Shows**

ScienceDaily (Sep. 10, 2010) — A team of astronomers has provided evidence suggesting that reionization alone is not able to stop star formation in dwarf galaxies, as had been expected.

The results were presented during the European Week of Astronomy and Space Sciences.

The Big Bang model predicts that the universe started out as completely ionized plasma, which later cooled and allowed all of the atoms to recombine into neutral atoms. The first generation of stars and galaxies formed from this neutral material and produced high energy radiation which then ¨reionized¨ the universe. This period of reionization ended approximately 1 billion years after the Big Bang.

The Local Cosmology from Isolated Dwarfs (LCID) project, led by Carme Gallart of the Instituto de Astrofisica de Canarias (Tenerife, Spain), has used over 100 orbits of the Hubble Space Telescope (HST) observing time with the ACS camera in order to obtain detailed star formation histories for six Local Group dwarf galaxies, which include details about early star formation.

"All the galaxies in the sample, including those that ended star formation very early on, such as the Cetus dSph galaxy, formed most of their stars after reionization was complete. This demonstrates that reionization alone is not able to stop star formation in the smallest galaxies, as had been expected," says Gallart, who has been working with a team of about a dozen people for five years on this project.

The smallest galaxies represent important probes of the conditions of the early Universe, since their early star formation can be strongly influenced by cosmic reionization. The most common prediction of models of dwarf galaxy evolution is that the early ionization of the gas in these galaxies by the cosmic UV background should have halted and prevented any subsequent star formation in them after about 12.5 Gyr ago.

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evidence sugests that reionization alone is not able to stop star formation in dwarf galaxies as expected. The Big Bang model predicts that the universe started out as completely ionized plasma. first generation of stars and galaxies formed from this neutral material and produced high energy radiation which then ¨reionized¨ the universe. 100 orbits of the Hubble Space Telescope to obtain detailed star formation histories for six Local Group dwarf galaxies, which include details about early star formation. This is all important to find out how our universe started and came about to what it is today. It enables us to hypothesize about finding out how and why dwarf galaxies came about.